REMARKS/ARGUMENTS

The original filing receipt contained erroneous filing dates for Japanese priority applications Nos. 47022/1999 and 332577/1999, and applicants sent a Request for Corrected Filing receipt **three times** but still await the corrected filing receipt. The Examiner's cooperation is respectfully solicited in obtaining this correction of the record, and this cooperation is much appreciated by applicants.

The claims have been rewritten or amended in an effort to define the disclosed subject matter more distinctly. If applied to the present claims, their rejection as being unpatentable under 35 U.S.C. 103(a) over the cited Beall et al patent in view of Fleming et al, the secondary reference, is respectfully traversed.

The claims are now directed to a temperature compensation member comprising a sintered body obtained by firing a preformed powder. In other words, the firing is carried out after the powder has been preformed into a predetermined shape. Therefore, it is not necessary to worry about the deposition of large crystals during firing, and it is possible to mass-produce products of complicated structure.

The preformed powder includes at least one of crystallizable and/or partially crystallizable glass powder. Each of these powders has a glass phase, which acts as an adhesive material, so that the sintered by has a higher bending strength (page 9, second paragraph, of specification). This is clear from Examples 3, 5 and 16, where sintering is carried out with the use of β-eucryptite crystal powder **and** at least one of the claimed glass powders, and the bending strength is higher than in Example 1, which uses **only** β-eucryptite crystal powder. Similarly, the bending strength is Example 10 is higher than in Example 2.

Furthermore, the temperature compensation member contains crystals exhibiting anisotropy in coefficient of thermal expansion. In this condition, it would be assumed that a large number of micro-cracks would exist between the crystals in the sintered body. However, the temperature compensation member of claim 11 has a high mechanical strength (bending strength). This is because the preformed powder includes at least one of crystallizable glass powder and partially-crystallized glass powder.

Beall et al (`352) discloses a temperature compensation member using a glass. However, the glass is a crystallized glass which is fundamentally different from the sintered body

of claim 11. Such a crystallized glass is generally made by producing a melted glass, of forming the melted glass into a predetermined shape to produce a formed glass, and of heat-treating the formed glass to deposit crystals therein. In every stage of the manufacturing steps, coarse crystals are often deposited to cause a large difference in expansion in the glass. This results in surface cracks during forming or machining. Therefore, it is impossible not only to produce a product complicated in shape but also to perform production at a yield of an industrial level.

In Fleming et al. (`743), a sintered body is made of sintering a crystal powder of ZrO_2 or HfO_2, another crystal powder of WO_3 or V_2O_5, and others. The sintered body contains crystals of ZrW_2O_8, HfW_2O_8, ZrV_2O_7, and HfV_2O_7. The crystals do not exhibit anisotrophy in coefficient of thermal expansion. Therefore, the sintered body does not have micro-cracks originating in the anisotropy in coefficient of thermal expansion. This means that, in Fleming, there is no necessity of using crystallizable glass powder and/or partially-crystallized glass powder to improve bending strength.

Neither Beall nor Fleming teach that the sintered body is obtained by firing the preformed powder made of at least one of crystallizable glass powder and partially-crystallized glass

powder. Accordingly, claim 11 is respectfully submitted to be patentable over the references.

With regard to new claim 7, it is noted that the sintered body is obtained by firing a preformed powder including a crystal powder and an additive which is mixed with the crystal powder and comprises at least one selected from a group including an amorphous glass powder, a glass powder prepared by a sol-gel method, sol, and gel. Comparing Example 1 with Examples 9 and 12, it will be seen that the bending strength becomes high by adding the additive to the crystal powder.

Neither Beall nor Fleming disclose or teach this unique structure of the temperature compensation member. Therefore, claim 7 is respectfully submitted to be patentable thereover.

All other claims depend on claim 7 or 11 and are believed to be allowable therewith.

A petition for a one-month extension for filing a response is attached hereto.

A sincere effort having been made to overcome all grounds of rejection, favorable reconsideration and allowance of claims 2-5, 7 and 11-17 are respectfully solicited.

Applicants enclose an English-language communication from the European Patent Office, dated November 2, 2004, together with copies of the references cited therein and a Form PTO-1449 listing the references. Please charge the official fee of $180.00 for late filing of the Information Disclosure Statement to Deposit Account No. 03-2468.

Respectfully submitted,

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Encls.: Request for extension
Form PTO-1449 and references disclosed therein with copy of European Search Report

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP Amendment, COMMISSIONER FOR PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450, on February 14, 2005

Maria Guastella

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